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(Slip Opinion)

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**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

_____)	
In the Matter of:)	
)	
Star Enterprise,)	RCRA Appeal No. 92-9
Delaware City Refinery)	
)	
Permit No. DED 002 329 738)	
_____)	

[Decided April 20, 1993]

ORDER DENYING REVIEW

Before Environmental Appeals Judges Nancy B. Firestone, Ronald L. McCallum, and Edward E. Reich.

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**STAR ENTERPRISE,
DELAWARE CITY REFINERY**

RCRA Appeal No. 92-9

ORDER DENYING REVIEW

Decided April 20, 1993

Syllabus

Star Enterprise ("Star") operates a land treatment unit ("LTU") at its Delaware City, Delaware petroleum refinery under a temporary RCRA Land Treatment Demonstration permit issued by the State of Delaware. During 1990, a new hazardous waste listing and the issuance of EPA's final Toxicity Characteristic rule caused certain petroleum refinery sludges not previously regulated as hazardous to be brought within the federal hazardous waste regulatory system. Because Delaware does not have HSWA authority, Star was required to seek EPA approval to continue to dispose of these newly listed or characterized hazardous wastes at its LTU. In accordance with 40 C.F.R. § 270.42(g), Star requested that EPA modify Star's existing State-issued RCRA permit. Citing 40 C.F.R. §§ 270.42(b)(7)(i) and (ii), EPA Region III denied Star's modification request on the grounds that (1) the modification request was incomplete, and (2) Star failed to demonstrate that hazardous constituents in the waste applied to the LTU could be completely degraded, transformed or immobilized within the treatment zone of the LTU, as required by 40 C.F.R. § 264.272(a). Star appeals.

Held: (1) The Region has not properly supported its conclusion that Star's modification request was incomplete. In order to substantiate that conclusion, the Region was required to identify one or more of the necessary elements of a Class 2 permit modification request, as listed in 40 C.F.R. § 270.42(b)(1) and the regulations referred to therein, that Star failed to include in its own request. The Region did not do so, and its conclusion regarding the completeness of Star's modification request therefore did not provide an adequate basis for denial of the request.

(2) Star's modification request was correctly denied, however, because the Region reasonably concluded that Star had failed to demonstrate the LTU's ability to accomplish complete treatment of hazardous constituents of the applied waste within the treatment zone, as required by 40 C.F.R. § 264.272(a). Star's effort to challenge that conclusion by presenting for the first time, in the context of this appeal, numerous technical objections to the sampling, analytical and statistical procedures specified in the LTU's existing RCRA permit -- in order to minimize the number of instances in which hazardous constituents apparently migrated beyond the LTU's treatment zone into the underlying soil or groundwater -- is rejected as untimely. Operating data facially inconsistent with the desired finding of complete treatment should have been, but were not, addressed by Star in its modification request. The request offered no explanation tending to invalidate or minimize the significance of the apparently unfavorable data, and the Region was therefore justified in taking those data into account in reaching adverse conclusions in its evaluation of the merits of the request. Also rejected as a basis for overturning the Region's decision are Star's conclusory assertion that "many successful applications of waste" have occurred at the LTU, and its contention that Star's remediation of certain acknowledged unit failures (as required by the terms of the existing permit) precluded the Region from considering those failures as evidence reflecting adversely on the unit's overall performance. Finally, Star's claim that the State of Delaware definitively resolved the question of the LTU's entitlement to a full RCRA operating permit, by granting an extension of the unit's temporary permit beyond its original expiration date, is rejected as both legally erroneous and unsupported by the record.

Before Environmental Appeals Judges Nancy B. Firestone, Ronald L. McCallum, and Edward E. Reich.

Opinion of the Board by Judge Reich:

Petitioner Star Enterprise ("Star") seeks review of the denial of its request for modification of a permit issued under the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 *et seq.*, governing the land treatment unit ("LTU") at Star's

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Delaware City, Delaware petroleum refinery.¹ The requested modification would have enabled Star to continue to utilize the LTU for the disposal of three types of waste newly listed or identified by EPA as hazardous under 40 C.F.R. Part 261: Hazardous Waste No. F037 (listed as petroleum refinery primary separation sludge), Hazardous Waste No. F038 (listed as petroleum refinery secondary [emulsified] separation sludge),² and solid wastes exhibiting the characteristic of toxicity as determined by application of the Toxicity Characteristic Leaching Procedure.³ On February 12, 1992, EPA Region III denied the modification request, and ordered Star to discontinue applying F037, F038, and Toxicity Characteristic wastes to the treatment unit and thereafter to initiate RCRA closure of the unit. Star appeals the Region's decision pursuant to 40 C.F.R. § 270.42(f)(2).

I. BACKGROUND

Star's Delaware City petroleum refinery occupies five thousand acres alongside the Delaware River fifteen miles south of Wilmington, and has been in operation since 1956. According to the narrative portions of the State-issued permit involved in this appeal, petitioner's corporate predecessor secured RCRA interim status in November 1980 for the continued operation of an on-site landfill at the Delaware City refinery and then, on an adjacent portion of the refinery

¹ Regulatory action implementing the 1984 Hazardous and Solid Waste Amendments to RCRA will generally eliminate land disposal of hazardous wastes that have not been pretreated in accordance with standards established by EPA pursuant to RCRA Section 3004(m), 42 U.S.C. § 6924(m), unless they are entitled to a variance under the Act, such as the variance for meeting the "no migration" standard under RCRA Section 3004(g)(5), 42 U.S.C. § 6924(g)(5). The HSWA land disposal restrictions do not affect this appeal, however, because no regulations establishing land disposal prohibitions or pretreatment standards for the petroleum refining wastes here at issue were in existence as of the date of the Region's denial, from which this appeal has been taken. Subsequently, in August 1992, land disposal prohibitions and pretreatment standards (that will become effective in June 1993) were established for F037 and F038 petroleum refining wastes. *See* 57 Fed. Reg. 37194, 37271-74 (1992) (to be codified at 40 C.F.R. §§ 268.36(b), (c), (h)). No comparable regulations have yet been issued for hazardous wastes newly identified under the Toxicity Characteristic rule.

² EPA first listed Hazardous Waste Nos. F037 and F038 in a rule issued November 2, 1990 (effective May 2, 1991). *See* 40 C.F.R. § 261.31.

³ EPA's Toxicity Characteristic rule, which introduced the Toxicity Characteristic Leaching Procedure as a determinant of toxicity and thus as a basis for federal regulation of certain wastes and constituents not previously regulated as hazardous, was issued March 29, 1990 (and became effective September 25, 1990). *See* 40 C.F.R. § 261.42.

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property, commenced operation of a land treatment unit⁴ under interim status during 1981. *See* Delaware Permit No. HW 92C09 § II.A.1.c, at p. II-1 (describing the operational and permitting history of the landfill and LTU). The Delaware permit recounts that federal regulatory standards governing the operation of landfills and land treatment units became effective on January 26, 1983, and that in 1984, the State of Delaware "adopted the same regulations" and received EPA authorization to administer them. *Id.* The State granted petitioner a RCRA permit for the continued operation of the landfill at the Delaware City refinery in September 1984, but refrained from taking any action on a permit application for the LTU pending the expected development and issuance of an EPA guidance document regarding land treatment. *Id.* at II-2.⁵

With the enactment of the 1984 Hazardous and Solid Waste Amendments to RCRA ("HSWA"), it became necessary for Delaware to reach a final determination granting or denying a RCRA permit for petitioner's interim status land treatment unit no later than November 8, 1988. *See* 42 U.S.C. § 6925(c)(2)(A)(i).⁶ In February 1988, in anticipation of the approaching statutory deadline, Delaware's Department of Natural Resources and Environmental Control

⁴ A land treatment unit is a hazardous waste management unit whose operation "involves the application of waste on the soil surface or the incorporation of waste into the upper layers of the soil in order to degrade, transform or immobilize hazardous constituents present in hazardous waste." Preamble to the Interim Final Hazardous Waste Land Treatment, Storage and Disposal Regulations, 47 Fed. Reg. 32274, 32324 (1982) (hereinafter "LTSD Preamble"). Unlike other land disposal systems, land treatment units do not include physical barriers for the prevention of hazardous constituent migration into the underlying soil and groundwater, but rely instead on "the dynamic physical, chemical, and biological processes occurring in the upper layers of the soil [*i.e.*, the unit's *treatment zone*] for the degradation, transformation, and immobilization of hazardous constituents." *Id.* *See* generally 40 C.F.R. Part 264, Subpart M for the standards governing the permitting of LTUs.

⁵ We surmise that the guidance document to which Delaware's permit refers is EPA's *Permit Guidance Manual on Hazardous Waste Land Treatment Demonstrations*, Doc. No. EPA/G-86-00032, the final version of which was issued by the Office of Solid Waste in July 1986.

⁶ Section 3005(c)(2)(A)(i) of RCRA, 42 U.S.C. § 6925(c)(2)(A)(i), states:

Not later than the date four years after November 8, 1984, in the case of each application under this subsection for a permit for a land disposal facility which was submitted before such date, the Administrator shall issue a final permit pursuant to such application or issue a final denial of such application.

Delaware has been authorized, pursuant to RCRA Section 3006(b), 42 U.S.C. § 6926(b), to "issue and enforce permits for the storage, treatment, or disposal of hazardous waste" in lieu of the EPA Administrator since June 1984. *See* 40 C.F.R. §§ 272.400-.401 (describing the scope and limits of Delaware's authorization).

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("DNREC") notified petitioner that DNREC was unwilling to issue the Part 264 RCRA operating permit sought by petitioner for the Delaware City LTU. DNREC explained that the Land Treatment Demonstration Report submitted by petitioner in November 1986 in support of its RCRA permit application "does not meet the regulatory requirement found in Section 264.272 of the Delaware Regulation[s] Governing Hazardous Waste,"⁷ because the materials submitted to DNREC failed to present necessary data and did not, in any event, substantively discharge petitioner's burden of demonstrating "complete" treatment of hazardous constituents within the unit's treatment zone:

Complete data using available literature data, operating data, lab or field test results have not been supplied, consequently a "Full Scale Land Treatment Permit" cannot be issued based on this inadequacy. The information contained with the report has not demonstrated that *each* hazardous constituent of each waste applied [to the unit] for land treatment has been, or could be, completely degraded, transformed or immobilized within the treatment zone. Failure to accomplish this basic requirement is sufficient to deny issuance of a permit to conduct hazardous waste land treatment. [R145a (emphasis in original)]

Moreover, because DNREC considered the deficiencies in petitioner's original Land Treatment Demonstration Report not to be remediable within the remaining interim status period, DNREC urged petitioner to withdraw its application for a RCRA operating permit and to apply, instead, for a land treatment demonstration permit pursuant to Delaware's version of 40 C.F.R. § 270.63(a).⁸

⁷ The Delaware regulations modeled after the federal hazardous waste regulatory system are referred to as the Delaware Regulations Governing Hazardous Waste. As previously noted, Delaware "adopted the same regulations" as the federal regulations. For ease of reference, this background discussion will cite to the equivalent federal regulations. For purposes of deciding this appeal, only federal regulations are implicated because Star's modification request pertains to regulatory provisions for which the State has not been authorized.

⁸ DNREC advised petitioner that, under the circumstances, the only apparent alternative to conducting a new land treatment demonstration under a demonstration permit would be loss of interim status and closure of the LTU:

You are aware that the Hazardous and Solid Waste Amendments of 1984 (HSWA) require all interim status land disposal facilities (LDF) [to] obtain permit status by November 8, 1988. If this is not accomplished, interim status will be lost and closure/post closure approaches must be accomplished. It

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Petitioner followed the course recommended by DNREC and, on November 8, 1988, DNREC issued (as an amendment to petitioner's existing RCRA landfill permit) a land treatment demonstration permit (the "Permit") for the Delaware City LTU -- allowing petitioner to undertake a fifteen-month Land Treatment Demonstration project at the LTU and authorizing petitioner to continue applying hazardous wastes to the LTU for the duration of the demonstration project, *i.e.*, until February 8, 1990.

The Permit established a mandatory program of specific sampling, analytical, and statistical procedures designed to ensure the timely detection of any hazardous constituents leaching beyond the LTU's treatment zone. Consistent with the applicable Part 264 regulations, hazardous constituent migration, if any, was to be detected through regular monitoring of the soil and soil-pore liquid immediately below the treatment zone,⁹ and of the underlying groundwater flowing toward, and away from, the unit boundaries.¹⁰

⁸(...continued)

appears that the deficiencies of the land treatment demonstration report can not be corrected in time for you to obtain an operating permit by the deadline, therefore, it is recommended that the application for a "Land Treatment Operation Permit" be withdrawn. A separate, new application for a "Short Term Treatment Demonstration Permit" should be submitted which will satisfy the HSWA statutory requirement. [R145a]

A treatment demonstration permit allows an LTU owner or operator to perform specified field tests or laboratory procedures that involve hazardous waste treatment, for the purpose of attempting the demonstration required by Section 264.272(a). *See* 40 C.F.R. §§ 264.272(b), 270.63(a); *see also* LTSD Preamble, 47 Fed. Reg. at 32326 ("Where field testing or laboratory analyses are used, hazardous waste disposal or treatment is occurring and RCRA provides that such activity requires a permit."). A "short-term" treatment demonstration permit is the particular type of demonstration permit for which LTU owners and operators are directed to apply in the event that "insufficient treatment information exists to satisfy the treatment demonstration or to * * * establish preliminary permit conditions for the full-scale facility." *Permit Applicants' Guidance Manual for Hazardous Waste Land Treatment, Storage, and Disposal Facilities*, Doc. No. EPA/530-SW-84-004, § 7.2, at p. 7-4 (OSWER 1984).

⁹ *See* 40 C.F.R. § 264.278(d) (a land treatment unit owner or operator "must conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone"); 40 C.F.R. § 264.278(f) ("The owner or operator must determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored * * * below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring * * *").

¹⁰ *See* 40 C.F.R. § 264.90(a)(2) (the owner or operator of any land treatment unit, landfill, surface impoundment, or waste pile that receives hazardous waste after July 26, 1982, must conduct groundwater monitoring "for purposes of detecting, characterizing and responding to releases to the uppermost aquifer"); 40 C.F.R. § 264.98(f) ("The owner or operator must determine whether there is

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The Permit also contained a series of provisions requiring, on an ongoing basis, the compilation, interpretation, and submission of field test data derived from the LTU's unsaturated zone¹¹ and groundwater monitoring systems, to provide a foundation for the ultimate assessment of the LTU's ability to achieve the "complete" treatment of applied wastes required by Section 264.272(a). For example, the Permit directed Star to prepare and submit quarterly soil-pore liquid monitoring reports (to include "a summary of the analytical results * * * [pertaining to] active and background soil-pore liquid quality"), semi-annual soil core monitoring reports (to include "the analytical results of the active and background soil-core data"), semi-annual groundwater monitoring reports (to include "a tabulation of analytical results of the upgradient and downgradient ground-water samples"), and annual site activity reports (to include a "[s]ummary of all ground-water, soil, and soil-pore liquid analyses obtained in the reporting period"). See Permit Attachment E. In addition, Star was required to include the results of its unsaturated zone monitoring in a Final Land Treatment Demonstration Report containing, among other things, "[a] summary of the background and field test plot analytical results" and "a discussion of any statistically significant increases in any monitoring parameters." *Id.*

In an order dated February 8, 1990, DNREC extended the term of the Permit, at Star's request, until such time as DNREC shall have completed its review of Star's Final Land Treatment Demonstration Report and decided whether to issue a full RCRA operating permit for the LTU. Secretary's Order No. 90-HW-03, at p. 5 (DNREC 1990) (R74a). This order deleted the Permit provision requiring Star to "cease application of waste onto the field test plot" at the conclusion of the fifteen-month demonstration, and replaced it with the following provision authorizing waste disposal at the LTU after the conclusion of the demonstration period:

Upon completion of the 15 month Land Treatment
Demonstration, the Permittee may continue application of waste

¹⁰(...continued)
statistically significant evidence of
[groundwater] contamination for any chemical parameter [or] hazardous constituent specified in the
permit * * *").

¹¹ The unsaturated zone refers to "the geological profile extending from the ground surface * *
* to the upper surface of the principal water-bearing formation." *Permit Guidance Manual on
Unsaturated Zone Monitoring for Hazardous Waste Land Treatment Units*, Doc. No. EPA/530-SW-
86-040, at 4 (OSWER 1986).

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onto the Land Treatment Unit until the Department completes the final demonstration permit [sic] determination. During the period of waste application following the completion of the demonstration and prior to the Department's final demonstration permit determination, the Permittee shall continue operating and monitoring the Land Treatment Unit in accordance with Provisions XIII.B, XIII.C, XIII.D, XIII.E, and XIII.F [*i.e.*, the monitoring and other operational requirements that governed the LTU during the demonstration period] and shall meet all other applicable State and Federal requirements.

Star submitted its Final Land Treatment Demonstration Report to DNREC in March 1990, but DNREC has evidently never issued a decision granting or denying a Part 264 permit for the LTU. Star has therefore continued to apply hazardous wastes to the LTU under the authority of the State permit provision quoted above.

Meanwhile, federal regulations issued by EPA during 1990 resulted in more of the wastes applied to the LTU being characterized as hazardous, and subject to certain federal requirements.¹² In particular, on March 29, 1990, EPA issued its Toxicity Characteristic rule, *see* 55 Fed. Reg. 11798 (1990), which, as of September 25, 1990, expanded the category of solid waste subject to federal regulation as "characteristic" hazardous waste, by reformulating the regulatory criteria for determining toxicity. On November 2, 1990, as part of a separate regulatory initiative, EPA added primary (F037) and secondary (F038) petroleum refinery separation sludges to its list of "hazardous wastes from non-specific sources," effective as of May 2, 1991. *See* 55 Fed. Reg. 46354 (1990); 56 Fed. Reg. 21959 (1991). The issuance of these regulations required Star either to discontinue its land treatment of Toxicity Characteristic ("TC"), F037, and F038 wastes at the Delaware City unit or, because these are wastes newly listed or

¹² Although the State of Delaware is authorized to administer its own hazardous waste management program in lieu of the federal program set forth in RCRA Subtitle C, Delaware may not administer "any HSWA requirement" unless EPA has explicitly conferred such additional authority by notice published in the Federal Register. *See* 40 C.F.R. §§ 272.400-.401. Because the petroleum refining wastes at issue in these proceedings are controlled as hazardous wastes pursuant to regulations implementing HSWA, *see* 40 C.F.R. § 271.1(j)(1), and because EPA has not authorized Delaware to administer those regulations, petitioner's permit modification request was properly directed to, and decided by, the EPA Regional Administrator.

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identified under HSWA, to seek an appropriate federal permit modification pursuant to 40 C.F.R. § 270.42(g).¹³

Star timely submitted a Class 1 modification request to continue handling newly regulated TC wastes on August 20, 1990; a Class 1 modification request to continue handling newly regulated F037 and F038 listed wastes on April 30, 1991; and, on March 25, 1991, a Class 2 modification request to add F037, F038, and three types of TC waste (DCG Biosludge; Tank Bottom Sludge; and Miscellaneous Oily Soil, Sediment and Sludge) to the list of allowed hazardous wastes in the Delaware City LTU's existing RCRA permit.¹⁴ Region III denied Star's request on

¹³ Section 270.42(g) states that the continued management at an existing facility of wastes newly listed or identified as hazardous under 40 C.F.R. Part 261 shall be federally authorized only if, *inter alia*, the permittee:

* * *

(ii) Submits a Class 1 modification request on or before the date on which the waste becomes subject to the new requirements; [and]

* * *

(iv) In the case of Classes 2 and 3 modifications, also submits a complete modification request within 180 days after the effective date of the rule listing or identifying the waste.

The permit modification provisions of Section 270.42(g) were amended effective August 21, 1991, but those amendments are not material to this appeal.

¹⁴ By the time Star initiated its request for a federal permit modification, Star had already, several months earlier, completed the fifteen-month field test for which the State Permit was originally issued. The Permit had already been transformed, by the State's February 8, 1990 order (*see supra* pp. 7-8), from a limited-duration permit authorizing LTU operation solely for purposes of conducting a treatment demonstration, into a permit of indefinite duration authorizing application of hazardous wastes to the LTU for purposes unrelated to the (now-concluded) demonstration project. Moreover, the data generated during the demonstration period had already been submitted to the State in the form of Star's Final Land Treatment Demonstration Report, and the State was in the process of reviewing the data in order to decide whether to grant or deny a Part 264 permit for full-scale operation of the LTU. Star itself, in its modification request, confirmed that the demonstration phase of the LTU permitting process had been completed by consistently referring to the Land Treatment Demonstration in the past tense. *See* R36a-37a.

Accordingly, when Region III evaluated Star's modification request, it evidently did so with the understanding that Star was asking the Region to authorize nothing less than full-scale operation of the LTU under 40 C.F.R. Part 264, Subpart M, for the treatment and disposal of HSWA-regulated wastes. With that understanding, which is reflected throughout the Statement of Basis for the Region's final decision, the Region addressed the merits of the modification request by reviewing the LTU

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the grounds that (1) Star failed to demonstrate that hazardous constituents in the applied wastes could be completely degraded, transformed, or immobilized within the treatment zone of the LTU, as required by 40 C.F.R. § 264.272(a),¹⁵ and (2) Star's modification request was "incomplete," as that term is used in 40 C.F.R. § 270.42(b)(7)(i).

For the reasons discussed below, we reject Region III's proffered explanation for characterizing Star's modification request as "incomplete." We find no error, however, in the Region's determination that Star failed to make the showing required by 40 C.F.R. § 264.272(a) with respect to the LTU's ability to degrade, transform, and/or immobilize hazardous constituents of the applied wastes within the treatment zone. The petition for review is therefore denied.

II. DISCUSSION

Under the rules governing this proceeding, a RCRA permit determination ordinarily will not be reviewed unless it is based on a clearly erroneous finding of fact or conclusion of law, or involves an important matter of policy or exercise of discretion that warrants review. *See, e.g., Pollution Control Industries of Indiana*, RCRA Appeal No. 92-3, at 3 (EAB, Aug. 5, 1992); *Sandoz Pharmaceuticals Corp.*, RCRA Appeal No. 91-14, at 3 (EAB, July 9, 1992). *See also* 40 C.F.R.

¹⁴(...continued)

performance data against the standard established in 40 C.F.R. § 264.272(a), *i.e.*, the standard for obtaining a full-scale facility permit rather than a demonstration permit. *See Permit Applicants' Guidance Manual for Hazardous Waste Land Treatment, Storage, and Disposal Facilities*, Doc. No. EPA/530-SW-84-004, at 7-4 ("After the lab or field tests are complete, the applicant should apply for the full-scale facility permit."). Star has never challenged the Region's apparent understanding of the nature and objectives of the modification request, and has never contended that the Section 264.272(a) standard was inapplicable to the request. We therefore assume, for purposes of this appeal, the correctness of the Region's understanding of Star's request and the applicability of the Section 264.272(a) criterion to that request.

¹⁵ According to 40 C.F.R. § 270.42(b)(7)(ii), a Class 2 permit modification request is properly denied if the requested modification would not comply with any of the substantive regulatory standards of 40 C.F.R. Part 264 that are applicable to the permitted facility. In this case, the Region concluded that the continued land treatment of HSWA-regulated F037, F038, and TC wastes at petitioner's Delaware City refinery would violate 40 C.F.R. § 264.272(a), which requires that

[f]or each waste that will be applied to the treatment zone, the owner or operator must demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed or immobilized in the treatment zone.

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§ 124.19.¹⁶ The preamble to Section 124.19 states that the Environmental Appeals Board's power of review "should only be sparingly exercised" and that "most permit conditions should be finally determined at the Regional level * * *." 45 Fed. Reg. 33,412 (1980). The burden of demonstrating that review is warranted rests with the petitioner. *E.g., GSX Services of South Carolina*, RCRA Appeal No. 89-22, at 3 (EAB, Dec. 29, 1992).

Star's argument on appeal is in two parts, corresponding to the two independent grounds advanced by the Region in its order denying Star's modification request. The Region invoked 40 C.F.R. § 270.42(b)(7)(i), which states that a Class 2 modification request may be denied if "[t]he modification request is incomplete." The Region also, however, conducted a detailed evaluation of the merits of the proposed modification pursuant to 40 C.F.R. § 270.42(b)(7)(ii),¹⁷ and concluded that Star's continued land treatment of HSWA-regulated petroleum refining wastes at the LTU would not "comply with the appropriate requirements of 40 CFR part 264."¹⁸ Specifically, the Region determined that the proposed land treatment of newly regulated F037, F038, and TC wastes at the LTU was precluded by Star's inability to satisfy the hazardous waste land treatment demonstration requirement set forth in 40 C.F.R. § 264.272(a), which provides:

For each waste that will be applied to the treatment zone, the owner or operator must demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed or immobilized in the treatment zone.

Star challenges both the Region's approach to the "completeness" requirement and the Region's substantive evaluation of the results of Star's land treatment demonstration.

¹⁶ According to 40 C.F.R. § 270.42(f)(2), an appeal from a decision granting or denying a Class 2 modification request is governed by the permit appeal procedures of Section 124.19.

¹⁷ Paragraph 270.42(b)(7)(ii) provides that the grounds for denial of a Class 2 permit modification request include a determination by the Regional Administrator that "[t]he requested modification does not comply with the appropriate requirements of 40 CFR part 264 or other applicable requirements."

¹⁸ The Region specifically noted that notwithstanding the incompleteness of the modification request, "available data from Star provided sufficient evidence for this denial." Statement of Basis, at 15.

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A. *"Completeness"*

Although the Region carefully preserves the argument that the available LTU operating data are sufficient to justify a negative determination on the merits of Star's modification request, the Region also asserts that "the monitoring data provided by Star to EPA (through DNREC) was incomplete according to the data gathering/analysis stipulations in the [demonstration permit]." Statement of Basis, at 15. In a section of its Statement of Basis titled "Completeness of Data," the Region supports its determination regarding completeness by identifying four specific deficiencies in the Star data:

- (1) Soil samples from below the LTU treatment zone were reportedly taken at depths ranging from 60 to 72 inches beneath the soil surface, rather than the narrower range (60 to 66 inches) specified in the demonstration permit;
- (2) Soil samples used to calculate the background levels of hazardous constituents appeared, according to the Region's analysis, to have been drawn from contaminated background soils;
- (3) Star's groundwater quality reports did not consistently present the "total" concentrations of the relevant monitoring parameters, but in many instances presented the (considerably lower) "dissolved" constituent concentrations; and
- (4) For each groundwater sampling well, Star reported the concentration of each monitoring parameter as a single value, whereas the demonstration permit required Star to sample four different aliquots per well per sampling event (and thus to report four separate values for the concentration of each constituent).¹⁹

¹⁹ In its Response to the Petition for Review, the Region states that the Star data, and subsequent data obtained from the State, "revealed numerous deficiencies, none of which were identified, addressed, or explained in Star's permit modification application." The deficiencies are described as including, but not being limited to, the four specific deficiencies discussed in the Statement
(continued...)

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Star argues that none of the deficiencies cited in the Region's denial is germane to the completeness of the modification request, and that the Region's analysis -- by ostensibly looking at alleged deficiencies in the data required to be collected under the existing permit rather than the completeness of the request -- leads to the *post hoc* imposition of application requirements having no basis in the text of the governing regulations:

[N]one of these [four] items relate to the completeness of the application, i.e. the failure to submit information required by Part 270, and Region III cites no application requirements in Part 270 which it alleges were not fulfilled. Instead Region III essentially alleges that some of the data collected under the existing permit * * * may be objectionable. * * * [But] this data was not itself a required part of the application, so it is irrelevant to the completeness of the application.

Petition for Review, at 2. In response, the Region appears to acknowledge that its "completeness" concerns do in fact relate to the integrity of the treatment demonstration data, but the Region continues to insist that the request was fatally incomplete owing to its failure to "identify," "address," or "explain" any of the four data gathering and analytical deficiencies cited in the Region's Statement of Basis. Response, at 2.

We agree with Star that the Region cannot, as it did here, simply equate the submission requirements for a permit modification request with the data generation requirements of the permit, and then label the modification request "incomplete" solely because the data were not generated strictly in accordance with certain conditions of the permit. Rather, we believe that a finding of incompleteness should be firmly grounded in a comparison between the information and data supplied by the permittee, on the one hand, and the information requirements established for a modification request of the appropriate class, on the other.

Viewed in context, Section 270.42(b)(7)'s use of the term "incomplete" is most reasonably understood with reference to the required contents of a Class 2

¹⁹(...continued)
of Basis. Response, at 2.

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modification request, as set forth in 40 C.F.R. § 270.42(b)(1). That section states that for a Class 2 modification, the permittee must submit a request that:

- (i) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;
- (ii) Identifies that the modification is a Class 2 modification;
- (iii) Explains why the modification is needed; and
- (iv) Provides the applicable information required by §§ 270.13 through 270.21, 270.62, and 270.63.

We agree with Star's contention that the Region was obliged to, but did not, substantiate its "incompleteness" allegation by identifying one or more of the information requirements enumerated in Section 270.42(b)(1) as being absent from Star's request.²⁰ Consequently, were the Region's denial premised solely on its conclusion regarding the completeness of Star's application, we would remand this matter for further proceedings at the Regional level to determine the completeness of the modification request by reference to § 270.42(b)(1). However, since we conclude that the Region correctly determined that the data were sufficient to support a denial of the permit modification, this will not be required.

B. Adequacy of Star's Treatment Demonstration

As the proponent of a Class 2 modification, Star was required to make a satisfactory showing that the modification would comply with the substantive treatment, storage and disposal standards of Part 264. *See* 40 C.F.R. § 270.42(b)(7)(ii). This would include, most importantly, the standard requiring a demonstration of the LTU's ability to achieve complete treatment of hazardous constituents within the treatment zone. The record before us discloses, however, that Star failed to attempt the showing that the regulations demanded of it.

²⁰ In its Response to Star's Petition for Review, the Region contends for the first time that Star's modification request was also incomplete for failure to provide, pursuant to Section 270.42(b)(1)(iv), all of the general and specific Part B information applicable to land treatment units. Response, at 2. Even if correct, this contention formed no part of the original basis for the Region's decision, and we therefore decline to address it.

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Star's March 25, 1991 modification request consisted of a three-page letter to the Regional Office (addressing, in an extremely abbreviated fashion, certain of the Part B information requirements applicable to land treatment facilities); an updated list of hazardous wastes proposed for treatment at the LTU; and an updated Part A application form. Although the Region had access (either directly or through DNREC)²¹ to the data contained in Star's March 1990 Final Land Treatment Demonstration Report, Star's modification request included no reference to the recently concluded demonstration project, presented none of the data generated during that project, and made no mention of the LTU's ability to treat the hazardous constituents of petroleum refining wastes within the treatment zone.

The modification request thus addressed none of the land treatment demonstration results to which the Region would necessarily have to refer in its evaluation of the merits of the proposed permit modification. Star made no attempt to explain why data which on their face suggested problems with achieving complete treatment should not be so interpreted. The Region therefore conducted an independent, *de novo* review of the data contained in the Final Land Treatment Demonstration Report and drew supportable inferences from those data, with which Star now attempts to take issue on appeal. However, explaining any potentially adverse data was logically part of Star's demonstration and, by failing to do so, Star left the Region free to reach its conclusions based on the administrative record before it.²²

²¹ The Region's February 1992 public notice of its decision on Star's modification request, and the certified index accompanying its Response to Star's Petition for Review, make clear that the Region considers Star's Final Land Treatment Demonstration Report to have been part of the administrative record underlying its decision. It is, however, not apparent from the appellate record exactly how the Region gained access to the Report. The Region appears to suggest, in its Response to Star's Petition, that Star never furnished the Report (or the relevant portions of the data contained in the Report) for the Region's review in connection with the modification request, and that the Region instead obtained the necessary data from DNREC. We will not speculate as to whether or not that is so. The question is not material to our decision, and we place no reliance on the Region's assertion. What is clear, in any event, is that the explanatory material in the Petition for Review was not previously provided to the Region.

²² A full, informative presentation of Star's own assessment of the LTU demonstration results was particularly important owing to the singular procedures that come into play in the permit modification context. According to 40 C.F.R. § 270.42(b), the Regional Administrator is required to act on a Class 2 modification request within 120 days after receipt of the request, or else the proposed modification becomes "automatically authorized" for as long as 180 days without any further agency action; and if the Regional Administrator fails or is unable to act on the request during this initial period of automatic authorization, the proposed modification may, in certain circumstances, become automatically authorized for the remaining life of the permit. Moreover, unlike an initial permit

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For purposes of its review, the Region relied principally on the sampling, analytical and statistical methods specified in the Permit. In addition, the Region conducted a limited review of a subset of the treatment demonstration data using alternative statistical procedures that Star had proposed to DNREC subsequent to the issuance of the Permit, but that DNREC had never approved. After evaluating Star's data, utilizing both the analytical procedures dictated by the Permit and those alternative methods appearing in Star's subsequent (December 1989 and May 1990) submissions to DNREC, the Region concluded that Star had failed to carry its burden of making the demonstration required by Section 264.272(a). The Region's findings, which are explained at length in its Statement of Basis dated February 12, 1992, can be summarized as follows:

Unsaturated Zone Monitoring Results. Region III concluded that, during the land treatment demonstration project, (1) the soil-pore liquids below the treatment zone showed statistically significant increases in the concentration of benzene, chromium, ethyl benzene, lead, nickel, and total organic carbon, when compared with soil-pore liquids from background locations specified in the permit²³; and (2) the soil below the treatment zone showed statistically significant increases in the concentration of benzenethiol, cadmium, 1,4-dioxane, ethyl benzene, lead, methyl chrysene, 1-methyl naphthalene, naphthalene, nickel, toluene, total organic carbon, vanadium,

²²(...continued)

application, a modification request does not lead to the issuance of a draft or tentative decision to which the permittee and other interested persons may respond with comments or supplemental information. The Regional Administrator must proceed directly to a final decision approving (with or without changes) or denying the requested modification, and must do so within a comparatively short period of time.

If this streamlined decisionmaking process is to function properly, it is imperative that the Regional Administrator be presented with all necessary information from the outset of the modification process. The Region is responsible for conducting a prompt, thorough technical review of the proposed modification for consistency with the substantive treatment, storage and disposal standards of Part 264, and the permittee is responsible for ensuring that the Region has the information with which to do so.

²³ In its Statement of Basis, the Region also referred to a statistically significant detection of toluene in the soil-pore liquid below the treatment zone during the first quarter of 1989. See Statement of Basis, at 6. Star responded, in its Petition for Review, that the detection of toluene cited by the Region resulted from a misunderstanding or mistranscription of one of the data points tabulated in Star's Final Land Treatment Demonstration Report. The Region has not disputed Star's explanation, and we therefore conclude that the Region has abandoned its allegation regarding migration of toluene into the soil-pore liquid during 1989.

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xylene, and zinc, and statistically significant decreases in pH, when compared with soils from background locations specified in the permit. *See* Statement of Basis, at 6-9.

Groundwater Monitoring Results. The Region concluded that, during the land treatment demonstration project, groundwater samples collected from wells situated downgradient of the LTU repeatedly contained significantly higher levels of one or more of the hazardous constituents arsenic, cadmium, lead, nickel, and selenium than did groundwater samples collected from upgradient background wells. *See* Statement of Basis, at 10-14.

Star challenges these findings on three distinct grounds. Most prominently, Star attempts to demonstrate that a majority of the unfavorable data cited by the Region are mere "artifacts of the sampling, test, or statistical methods in the permit," and therefore do not represent genuine evidence of a lack of treatment capability. Specifically, with respect to the soil-pore liquid findings derived by the Region from Star's Land Treatment Demonstration Report, Star asserts that the statistically significant increases in hazardous constituent concentrations detected below the treatment zone (BTZ) should be disregarded because (1) the statistical procedure described in the Permit is inappropriate; (2) the background lysimeters (whose locations are specified in the Permit) were not properly situated so as to afford a valid basis for statistical comparisons between BTZ samples and background samples; and (3) two instances in which the data admittedly reflect hazardous constituent migration eventually led to the remediation of one of the LTU cells. With respect to the soil core findings derived from the Report, Star asserts that two of the organic constituent detections should be disregarded because they were not "confirmed" during subsequent sampling; that the remaining organic constituent detections should be disregarded because the LTU cells in question were later remediated; and that all of the inorganic constituent detections (as well as the pH decreases) should be disregarded because they are based on inappropriate statistical procedures and background soil cores drawn from inappropriate locations. As to the groundwater findings, Star asserts that every instance in which significant levels of hazardous constituents were detected in the groundwater downgradient of the LTU should be disregarded because "the statistical technique used to evaluate the data is inappropriate" and the use of an "appropriate" procedure would indicate that no significant leaching had occurred.

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Star unaccountably made none of these arguments to the Region in the context of its modification request. Nor did Star propose any changes to remedy the alleged deficiencies with the statistical procedures or location of the background monitors, as it now does in its Petition for Review.²⁴ Instead, Star left potentially disqualifying data unmentioned and unexplained throughout the modification request process, and only presented its own, more benign view of the data for the first time in the context of this appeal. Star cannot for the first time on appeal attempt to explain the data appearing in the treatment demonstration report (to the extent that the data are harmful to Star's position) and challenge the Permit provisions giving rise to the data. *See General Electric Company*, RCRA Appeal No. 91-7, at 27 (EAB, Nov. 6, 1992) (information offered by petitioner after the Region's issuance of a final permit decision does not, even if supportive of petitioner's position, undermine the validity of the Region's decision). We agree with the Region's conclusion that Star failed to discharge its burden of proof with respect to the effectiveness of the treatment process in use at the LTU. The conclusion the Region reached was supported by the record before it, and we will not disturb that conclusion on the basis of Star's untimely presentation of alternative analytical and statistical procedures.²⁵

In Star's second ground for challenging the Region's conclusion, Star appears to argue that the Region committed legal error by misapplying the performance standard embodied in Section 264.272(a). Star's position, as we understand it, is that the Region adopted an overly stringent interpretation of the requirement of "complete" transformation, degradation or immobilization of hazardous constituents, and that the Region proceeded to evaluate the performance of Star's LTU during the demonstration period against an unwarranted standard requiring virtual perfection. According to Star, an LTU owner or operator need only "show that the unit can successfully treat the waste and * * * take appropriate

²⁴ Star's silence with respect to these issues has persisted since the period when the demonstration permit was under development at the State level. In the text of the Permit, DNREC complained of "numerous shortfalls" in Star's 1988 permit application and stated that "the primary problem with the [application] is that Texaco [*i.e.*, Star's predecessor, Texaco Refining and Marketing Inc.] hasn't specified the operating parameters to be used during the Land Treatment Demonstration. Texaco has relied on the Department to write provisions into this permit." Permit § II.A.1.c, at II-2.

²⁵ We note that in connection with Star's groundwater monitoring results, which the Region evaluated (and found unsatisfactory) both under the statistical and analytical procedures stipulated in the Permit and under alternative procedures suggested to DNREC in 1989 and 1990, Star urges re-evaluation of the data under yet another statistical procedure. For the same reason that we decline to order a re-examination of the unsaturated zone monitoring data under newly proposed analytical procedures, we are also unwilling to order a third statistical analysis of the groundwater monitoring data.

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remedial actions on those occasions when there is a failure of the unit." Petition for Review, at 2. Star claims that it satisfied the regulatory standard, as so formulated, because "[a]ll of the many successful applications of waste which were completely treated prove that the unit can completely degrade, transform and immobilize the waste." *Id.*

For several reasons, this argument falls well short of demonstrating clear error on the part of the Region. As an initial matter, a conclusion that Star has documented "many successful applications of waste which were completely treated" does not suggest that there may not have also been many unsuccessful applications. To minimize the number of unsuccessful applications requires the acceptance of Star's broad challenge to the analytical methods specified in the Permit and the data generated thereunder, a challenge that we have already rejected. Although we may assume, without deciding, that the applicable standard does not require a perfect record of unit performance during the demonstration period, the extensive record of apparent hazardous constituent migration from the Delaware City LTU cannot, under any reasonable construction of the language of the regulation, be deemed to have established a successful treatment demonstration. We also reject Star's suggestion that the remediation of admittedly defective components of an LTU tends to support, rather than undermine, an attempt to demonstrate complete treatment of hazardous wastes. As the Region correctly observes in its response to Star's petition, "[r]emedial response actions are not intended to be a routine part of the LTU's waste management strategy and operations. * * * Star's repeated remediation of cells, over time, is suggestive of Star's failure to demonstrate the LTU's ability to completely degrade the applied waste * * * within the treatment zone * * *." Response, at 3.

Finally, Star argues that the Region should have deferred to DNREC's order of February 8, 1990, which extended the LTU permit so as to allow continued application of waste pending DNREC's review of the Final Land Treatment Demonstration Report. According to Star, this order was necessarily based on a finding by DNREC that Star had already demonstrated the LTU's ability to degrade, transform or immobilize hazardous constituents of the applied waste within the treatment zone. Star further claims that this implicit "finding" is entitled to dispositive weight because "these are state regulations * * * [and] it is Delaware's interpretation and not the EPA's that is controlling."

The argument is meritless. Star's modification request sought federal approval for land disposal of HSWA-regulated wastes, to which Delaware's regulations do not extend. The proposed modification was requested pursuant to

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the federal regulation governing permit modifications, 40 C.F.R. § 270.42, and that regulation called for an evaluation of the proposed modification for compliance with "the appropriate requirements of 40 CFR part 264"; denial of the request was, therefore, based on Star's failure to demonstrate compliance with the applicable federal (not State) regulatory standard. Moreover, the DNREC order on which Star relies does not contain the "finding" that Star attributes to it. On the contrary, although the DNREC order is generally complimentary of the LTU's performance as reflected in an interim report by Star, one of the main purposes of the order was to delay a definitive evaluation of the unit's performance pending submission and evaluation of the Final Land Treatment Demonstration Report. The order states that DNREC will require six months to review the final demonstration report, and that only then will DNREC formulate a "tentative decision" regarding the unit's qualification for full permit status. Star's argument for review based on the contents of DNREC's February 1990 order is, accordingly, rejected.²⁶

III. CONCLUSION

For the foregoing reasons, the Region did not clearly err by denying Star's Class 2 modification request. The petition for review is therefore denied.

So ordered.

²⁶ In response to this argument, the Region solicited a memorandum from DNREC in which DNREC disputes the contention that its February 1990 order was intended as a finding that Star had already accomplished a successful treatment demonstration for the LTU. We do not regard this document as a part of the administrative record of this permit denial, and we have therefore not considered it in reaching our decision.